Remarks

Claims 21, 22, 28 and 30 are cancelled and claims 23, 25, 27 and 29 are amended. Claims 31 to 34 are added. Claims 23 to 27, 29 and 31 to 34 are pending in this application of which claims 31 and 33 are in independent form.

On April 2, 2010, Examiner Peche suggested that applicants submit an independent method claim containing essentially the features set forth in added claim 31 except that it does not recite an "accelerator pedal" and instead recites a -- driver-controlled element --. Claim 32 is added to define the driver-controlled element as an accelerator pedal.

Cancelled claim 21 had been rejected under 35 USC 112, second paragraph, as being indefinite because there was insufficient antecedent basis for the limitation of "the slope". In added claim 31, a slope-determination unit is recited in the clause:

> "utilizing a slope-determination unit to plot said quantity (U) as a function of time and to obtain a slope dU/dt thereof;"

The recitation of a slope-determination unit should be sufficient antecedent basis for the term "a slope dU/dt".

Claim 21 was rejected under 35 USC 102(b) as being unpatentable over Kato et al. The following will show that added claim 31 patentably distinguishes the applicants' invention over this reference.

In claim 31, applicants have included additional details characterizing the driver-controlled functions in the first

method step. Thus, applicants' claim 31 includes the method step of:

> "realizing different driver-controlled functions of said driver-controlled element in dependence upon the degree of displacement or position of said driver-controlled element wherein: a first one of said driver-controlled functions comprises inputting a driver command torque in dependence upon a degree of actuation of said driver-controlled element; and, a second one of said driver-controlled functions comprises a kickdown function for an automatic transmission or an escape switch function for the case that the vehicle has a speed-limit function and said second driver-controlled function is activated when the driver-controlled element is actuated completely or up to the vicinity of said stop;"

The above features were suggested by Examiner Peche in the telephone interview with applicants' attorney on April 2, 2010. Again, here reference is made to a driver-controlled element which could, for example, be an accelerator pedal.

Turning now to Kato et al, it is known from this reference to continuously measure the position of the accelerator pedal as noted in paragraph [0047] of this reference. Furthermore, it is known from Kato et al to assign a first pedal pressing force to the normal operating range of the accelerator pedal from "fully closed" to "fully opened" and to assign a second pedal pressing force to the "kickdown" actuation range of the accelerator pedal. In this way, and based on the change of the pedal pressing force, the driver recognizes that the accelerator pedal has reached its kickdown position [0035]. In the subject matter of Kato et al, a correction of the measured value for the accelerator pedal

position with the actually reached degree of actuation of the accelerator pedal takes place [0013].

Such a correction of the sensor for determining the degree of actuation of the operator-controlled element is not the subject matter of applicants' claim 31. Instead, claim 31 provides a reliable correlation of two degrees of displacement of the driver-controlled element to the driver-controlled function wanted by the driver independent of the wear and the temperature drift of the sensor for determining the degree of displacement of the driver-controlled element and independently of the bearing play and the deformation especially of plastic parts of the driver-controlled element (especially of the accelerator pedal) so that the driver-controlled function wanted by the driver is reliably recognized and can be realized without the need of a sensor correction as set forth in Kato et al.

For this purpose, and in contrast to Kato et al, it is not the degree of displacement of the driver-controlled element itself which is determined in order to determine the driver-controlled function wanted by the driver; instead, the spring constant, that is, a slope (dU/dt), which characterizes the spring constant, is determined and this results with the instantaneous displacement of the driver-controlled element which can be, for example, an accelerator pedal. Thus, claim 31 includes the features and limitations of:

> "utilizing a slope-determination unit to plot said quantity (U) as a function of time and to obtain a slope dU/dt thereof; and,
>
> applying said slope dU/dt to a comparator and, if said slope dU/dt is

> greater than a threshold value, then said comparator detects said second driver-controlled function, otherwise, said comparator detects said first driver-controlled function."

The driver-controlled function wanted by the driver is detected with the aid of the slope (dU/dt) characterizing the particular spring constant which corresponds to the instantaneous degree of displacement of the driver-controlled element. The slope (dU/dt) referred to above which characterizes the spring constant can, for example, be selected from the slope of a time-dependent course of the sensor signal value (U) for the degree of displacement of the driver-controlled element (please see FIGS. 1 and 2 of applicants' drawings). Such an evaluation of the slope of the time-dependent course of the sensor signal value (U) is nowhere suggested in Kato et al.

In rejecting cancelled claim 21, reliance was placed in the action on paragraphs [0046] to [0048] of Kato et al. The pertinent portion of this material involving the output signal 14a referred to in the action starts at paragraph [0048]:

> "[0048] The data input control device **14** includes the preset output value storage **15** for storing each preset output value (correction value) that corresponds to the corresponding predetermined operational position of the accelerator pedal **2**. That is, the data input control device **14** can determine the predetermined operational position of the accelerator pedal **2** based on the angular position data of the accelerator pedal **2** and the pressing force applied to the accelerator pedal **2**, which are all received from the pedal position measuring means **13**. Thus, when the accelerator pedal **2** is pressed and is positioned to the predetermined operational position, the preset output value

> (correction value) of the predetermined operational position of the accelerator pedal **2** stored in the preset output value storage **15** is retrieved and is outputted to the correction output value storage **12** along with the output value **11***a* of the measurement device **11** measured at the predetermined operational position of the accelerator pedal **2**. In the correction output value storage **12**, the preset output value (correction value) retrieved from the preset output value storage **15** and the output value **11***a* of the measurement device **11** are stored as a pair. The correction output value storage **12** can store more than one preset output value (correction value) and the corresponding output value **11***a* of the measurement device **11**." (emphasis added)

The above shows that the data input control device 14 determines the operational position of the accelerator pedal based on the angular position data of the accelerator pedal and the pressing force applied to the accelerator pedal. This data is transmitted to the correction output value storage 12 as indicated by the signal quantity 14a.

Applicants submit that there is no indication that a slope is determined in Kato et al utilizing the quantity 14a as in the applicants' invention as now more carefully set forth in applicants' claim 31 with the clauses:

> "utilizing a slope-determination unit to plot said quantity (U) as a function of time and to obtain a slope dU/dt thereof; and,
>
> applying said slope dU/dt to a comparator and, if said slope dU/dt is greater than a threshold value, then said comparator detects said second driver-controlled function, otherwise, said comparator detects said first driver-controlled function."

Quantity 14a in Kato et al is simply information transmitted to a storage unit. Also, the storage unit 12 of Kato et al is again characterized in the action as a detector for detecting one of the operator-controlled functions of said element in dependence upon the quantity 14a.

There is no hint here that a slope is determined, let alone that the output value storage 12 acts as a detector to detect one of the operator-controlled functions of the operator-controlled element in dependence upon the slope of a quantity 14a.

In view of the above, applicants submit that claim 31 should now patentably distinguish the applicants' invention over Kato et al and be allowable. The remaining claims 23 to 27, 29 and 32 are all dependent from claim 31 so that they too should be allowable. Also, claim 33 parallels claim 31 in an apparatus context and is coextensive with claim 31 so that it too should be allowable.

Claims 23 to 27 were rejected under 35 USC 103(a) as being unpatentable over Kato et al in view of Kuretake. The applicants have shown above that claim 31 patentably distinguishes their invention over Kato et al and will now show that Kuretake does not fill the void left by Kato et al.

Kuretake discloses a control unit for detecting a degree of opening of an accelerator pedal and the degree of opening of a throttle flap. The throttle flap is controlled in dependence upon the accelerator pedal. In this way, an opening speed or closing speed of the throttle flap is determined in accordance with a set value. Kuretake is concerned with the fastest possible response of the throttle flap and to prevent an

overshoot thereof. In contrast to the applicants' invention, Kuretake relates neither to the determination of an driver-controlled function in dependence upon the displacement of the accelerator pedal nor as to an evaluation of the displacement of the accelerator pedal based on a slope characterizing the instantaneously acting spring constant.

From the above, it can be seen that Kuretake lies even farther away from applicants' invention so that it cannot possibly fill the void left by Kato et al. Accordingly, claims 23 to 27 should now patentably distinguish their invention over the combination of these references.

It is true that Kuretake discloses a time-dependent continuous determination of the actuation of an accelerator pedal (column 6, lines 11 to 16). The time-dependent trace of the actuation of the accelerator pedal is, however, not evaluated, let alone, a determination of the slope of the time-dependent course of the degree of displacement of the accelerator pedal.

Conclusion

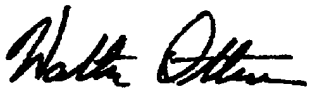
Applicants have shown that neither Kato et al nor Kuretake disclose the determination of a slope, which characterizes the spring constant corresponding to the instantaneous degree of displacement, nor do the applied references relate to the detection of driver-controlled functions of the driver-controlled element in dependence upon the determined slope which characterizes the spring constant as set forth in applicants' claims 31 and 33.

In view of the above, it can be seen that our person of ordinary skill cannot arrive at the applicants' invention from

Kato et al or from a combination of Kato et al and Kuretake so that claims 31 and 33 should now be allowable as should claims 23 to 27, 29, 32 and 34 which are dependent directly or indirectly from one of the two independent claims.

Reconsideration of the application is earnestly solicited.

Respectfully submitted,



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